

IN THE CLAIMS

Please cancel claims 1-101, all of the claims in the subject U.S. patent application, as filed, as constituted by the verified translation of PCT/DE2003/004038. Please also cancel claims 1-98 as set forth in the Article 34 amendment filed by KBA on January 10, 2005.

Please add new claims 102-191 as follows.

Claims 1-101 (Cancelled)

102. (New) A method for controlling rollers in a roller train of a printing unit including:

- providing a source of a dampening agent;
- providing a first roller adapted for taking up a dampening agent from said source of dampening agent;
- providing a second roller contacting said first roller and receiving said dampening agent from said first roller;
- providing a forme cylinder;
- including said first and said second rollers in a roller train conveying said dampening agent to said forme cylinder;
- providing a first drive motor for driving said first roller;
- rotating said first roller at a first roller surface speed using said first drive motor;
- providing a second drive motor for driving said second roller;
- rotating said second roller at a second roller surface speed using said

second drive motor; and

setting one of a surface speed of at least one of said first and second rollers and a slippage between said first and second rollers as a function of an operating condition of said printing press.

103. (New) The method of claim 102 further including changing said slippage between said first and second rollers as a function of a change in surface speed of said forme cylinder.

104. (New) The method of claim 102 further including selecting an ink for use in printing by said forme cylinder, forming a mixture of said ink and said dampening agent, wherein a property of said ink includes an amount of said dampening agent mixed with it and setting said one of said surface speed of at least one of said first and second rollers and said slippage between said first and second rollers as a function of said property of said ink.

105. (New) The method of claim 102 further including providing said forme cylinder having a forme cylinder surface speed of rotation and setting at least one of said first roller surface speed and said second roller surface speed as a function of said forme cylinder surface speed.

106. (New) The method of claim 102 further including selecting an amount of ink required for printing using said forme cylinder and setting said one of said surface

speed of at least one of said first and second rollers and said slippage between said first and second rollers as a function of said amount of ink required.

107. (New) The method of claim 102 further including providing a dampening unit having said dampening agent source and said roller train and operating said dampening unit selectively in one of a first operating state and in a second operating state wherein in said first operating state a surface speed of said forme cylinder and said surface speed of said second roller are in a first relation with each other and wherein in said second operating state said surface speed of said forme cylinder and said surface speed of said second roller are in a second relation with each other, said first relation and said second relation being different.

108. (New) The method of claim 102 further including driving said forme cylinder at a forme cylinder surface speed and controlling said first and second rollers independently of said forme cylinder.

109. (New) The method of claim 102 further including operating said second roller as a traversing roller.

110. (New) The method of claim 102 further including providing said first and second drive motors being infinitely variably controlled.

111. (New) The method of claim 102 further including providing said first and second

drive motors being electronically controlled.

112. (New) The method of claim 102 further including providing a control console and controlling said first and second drive motors from said control console.

113. (New) The method of claim 102 further including selecting said first roller surface speed as being less than said second roller surface speed.

114. (New) The method of claim 102 further including rotating said forme cylinder at a forme cylinder speed and selecting at least one of said first roller surface speed and said second roller surface speed being less than said forme cylinder speed.

115. (New) The method of claim 102 further including providing said first roller surface speed at less than 2 m/s.

116. (New) The method of claim 102 further including providing a third roller in said roller train, locating said third roller after, in a direction of travel of said dampening agent, said second roller and providing a drive between said second roller and said third roller.

117. (New) The method of claim 116 further including providing said drive as a gear drive.

118. (New) The method of claim 116 further including providing said drive as a friction drive.

119. (New) The method of claim 116 further including providing a fourth roller in said roller train and locating said fourth roller after said third roller in said direction of travel of said dampening agent.

120. (New) The method of claim 119 further including setting a slippage between at least one of said second roller and said third roller and said third roller and said fourth roller.

121. (New) The method of claim 102 further including bringing a last roller in said roller train into contact with said forme cylinder by contacting one of a bridge roller and an ink application roller working with said forme cylinder.

122. (New) The method of claim 102 further including providing a dampening agent reservoir as said dampening agent source and dipping said first roller into said dampening agent reservoir.

123. (New) The method of claim 102 further including applying said dampening agent to said first roller as finely distributed droplets.

124. (New) The method of claim 102 further including providing a computer and

changing one of said surface speed of one of said first and said second roller and said slippage between said first and second roller using said computer.

125. (New) The method of claim 107 further including selecting a forme cylinder surface speed being the same in both of said first and second operating states.

126. (New) The method of claim 102 further including selecting a first forme cylinder surface speed in said first operating state and a second forme cylinder surface speed, different from said first forme cylinder surface speed in said second operating state.

127. (New) The method of claim 107 further including providing at least one third roller arranged in said roller train downstream, in a direction of travel of said dampening agent and using said third roller for applying said dampening agent to said forme cylinder.

128. (New) A dampening unit of a printing press comprising:

    a dampening agent source including dampening agent;

    a first roller adapted to take up said dampening agent from said dampening agent source;

    a first roller drive mechanism adapted to rotate said first roller;

    a second roller adapted to receive said dampening agent from said first roller;

    a second roller drive mechanism adapted to rotate said second roller;

a forme cylinder of the printing press;

a forme cylinder drive mechanism;

a roller train including said first and second rollers and adapted to carry said dampening agent to said forme cylinder; and

at least a third roller in said roller train and arranged after, in a direction of dampening agent transport, said second roller, said at least third roller being a last roller in said roller train, said last roller in said roller train applying said dampening agent to said forme cylinder.

129. (New) The dampening unit of claim 128 further including means for performing traversing movement of said second roller.

130. (New) The dampening unit of claim 128 further including a first bridge roller in contact with said last roller in said roller train and an ink application roller which is in contact with said forme cylinder, said first bridge roller also being in contact with said ink application roller.

131. (New) The dampening unit of claim 130 further including a bridge roller drive motor usable to rotate said bridge roller.

132. (New) The dampening unit of claim 130 further including a fourth roller arranged downstream of said third roller, said fourth roller being said last roller in said roller train, and further including a second bridge roller which, in one operating position, is in

contact with said first bridge roller and with said third roller.

133. (New) The dampening unit of claim 131 wherein said forme cylinder drive mechanism is independent of said first roller drive and of said second roller drive and of said bridge roller drive.

134. (New) The dampening unit of claim 129 further including a traversing drive mechanism for accomplishing said traversing movement of said second roller.

135. (New) The dampening unit of claim 128 further including a gear drive connection between said second roller and said third roller.

136. (New) The dampening unit of claim 128 further including a friction drive connection between said second roller and said third roller.

137. (New) The dampening unit of claim 128 wherein said last roller is driven by friction from said second roller.

138. (New) The dampening unit of claim 128 wherein said last roller is driven by an independent drive mechanism.

139. (New) The dampening unit of claim 128 wherein said first roller has an elastomeric surface.

140. (New) The dampening unit of claim 128 wherein said second roller has a surface made of one of chromium and a ceramic material.

141. (New) The dampening unit of claim 128 wherein said last roller has an elastomeric surface.

142. (New) The dampening unit of claim 139 wherein said elastomeric surface is rubber.

143. (New) The dampening unit of claim 141 wherein said elastomeric surface is rubber.

144. (New) The dampening unit of claim 139 wherein said elastomeric surface has a hardness between 20 Shore A and 30 Shore A.

145. (New) The dampening unit of claim 141 wherein said elastomeric surface has a hardness between 25 Shore A and 40 Shore A.

146. (New) The dampening unit of claim 141 wherein said surface of said third roller is harder than said surface of said first roller.

147. (New) The dampening unit of claim 141 wherein said surface of said second roller is harder than said surfaces of said first roller and said last roller.

148. (New) The dampening unit of claim 128 wherein said first roller is one of a dipping roller and a duct roller.

149. (New) The dampening unit of claim 128 wherein said first roller has a first surface speed and said second roller has a second surface speed different from said first surface speed.

150. (New) The dampening unit of claim 149 wherein said first roller surface speed is less than said second roller surface speed.

151. (New) The dampening unit of claim 149 wherein said first roller surface speed and said second roller surface speed are less than a surface speed of said forme cylinder.

152. (New) The dampening unit of claim 128 further including a fourth roller in said roller train, said fourth roller being said last roller and applying said dampening agent to said forme cylinder.

153. (New) The dampening unit of claim 128 wherein a slippage is set between at least one of said first roller and second roller and between said second roller and said third roller.

154. (New) The dampening unit of claim 132 wherein ratios of surface speeds of said

forme cylinder to said last, third, second and first roller are 1 to (1 to 0.98) to (0.4 to 0.98) to (0.25 to 0.4) to (0.08 to 0.18) respectively.

155. (New) The dampening unit of claim 154 wherein said ratios are 1 to 0.99 to 0.96 to 0.33 to 0.1, respectively.

156. (New) The dampening unit of claim 128 further including a first bridge roller and an ink application roller and wherein, in a first operating position, said bridge roller is in contact with said ink application roller and is out of contact with said last roller, wherein in a second operating position, said bridge roller is in contact with said last roller and is out of contact with said ink application roller and wherein, in a third position, said bridge roller is not in contact with said last roller and is also not in contact with said ink application roller.

157. (New) The dampening unit of claim 130 further including means for moving said first bridge roller transversely.

158. (New) The dampening unit of claim 130 wherein said first bridge roller has a surface of Rilsan.

159. (New) The dampening unit of claim 153 further including actuating means for moving said bridge roller selectively into one of said first, second and third operating positions.

160. (New) The dampening unit of claim 153 further including a fourth operating position in which said bridge roller is in contact with both said ink application roller and said last roller.

161. (New) The dampening unit of claim 159 further including a control console adapted to operate said bridge roller actuating means.

162. (New) The dampening unit of claim 128 wherein said first roller drive mechanism is a first roller drive motor and wherein said second roller drive mechanism is a second roller drive motor.

163. (New) The dampening unit of claim 162 wherein said forme cylinder drive mechanism is a forme cylinder drive motor.

164. (New) The dampening unit of claim 163 wherein said second roller traversing means is a second roller traversing system.

165. (New) The dampening unit of claim 164 wherein said second roller traversing motor and said second roller drive motor are separate motors.

166. (New) The dampening unit of claim 157 further including a bridge roller drive mechanism and a separate bridge roller traversing mechanism.

167. (New) The dampening unit of claim 166 wherein said bridge roller traversing mechanism is a bridge roller traversing motor.

168. (New) The dampening unit of claim 164 wherein each of said motors is an electric motor.

169. (New) The dampening unit of claim 168 wherein each of said electric motors is infinitely variably controlled.

170. (New) The dampening unit of claim 168 wherein each of said electric motors is electronically controlled.

171. (New) The dampening unit of claim 168 further including a control panel and wherein each of said motors is controlled from said control panel.

172. (New) The dampening unit of claim 128 further including a bridge roller and wherein in a first position said last roller is in contact with said forme cylinder and not with said bridge roller, wherein in a second position, said last roller is in contact with both said forme cylinder and said bridge roller and in a third position said last roller is not in contact with said forme cylinder.

173. (New) The dampening unit of claim 172 further including an actuating means adapted to bring said last roller selectively into one of said first, second and third

positions.

174. (New) The dampening unit of claim 173 wherein said actuating means is a pneumatic cylinder.

175. (New) The dampening unit of claim 173 wherein said last roller is seated in eccentric bushings and wherein said actuating means pivots said last roller in said eccentric bushings.

176. (New) The dampening unit of claim 173 wherein said actuating means is operable by remote control.

177. (New) The dampening unit of claim 176 further including a control console usable to control said actuating means.

178. (New) The dampening unit of claim 157 further including means supporting said last roller for axial movement by said first bridge roller.

179. (New) The dampening unit of claim 157 wherein a frequency of said traverse movement of said first bridge roller is variable.

180. (New) The dampening unit of claim 157 wherein an axial length of said traversing movement of said first bridge roller is adjustable.

181. (New) The dampening unit of claim 178 wherein a frequency of said axial movement of said last roller is adjustable.

182. (New) The dampening unit of claim 178 wherein an axial length of said axial movement of said last roller is adjustable.

183. (New) The dampening unit of claim 128 wherein said dampening agent includes additives including isopropyl alcohol, said isopropyl alcohol being less than 5% by ratio of a total volume of said additives added to said dampening agent.

184. (New) The dampening unit of claim 183 wherein said volume of said isopropyl alcohol is 0%.

185. (New) The dampening unit of claim 128 wherein a surface speed of said forme cylinder is at least 12 m/s.

186. (New) The dampening unit of claim 128 wherein a set-up speed of the printing press including said dampening unit is between 11% and 25% of an operating speed of said printing press.

187. (New) The dampening unit of claim 128 wherein said printing unit performs an offset printing process.

188. (New) The dampening unit of claim 128 wherein said printing unit is a jobbing printing press.

189. (New) The dampening unit of claim 128 wherein said dampening agent source is a dampening agent reservoir into which said first roller dips.

190. (New) The dampening unit of claim 128 wherein said dampening agent source is a spray crosspiece including at least one spray nozzle adapted to spray said dampening agent on said first roller.

191. The dampening agent of claim 128 wherein said dampening agent source is one of a brush dampening unit and a centrifugal dampening unit.